UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

SEP 10 2010

Ref: 8EPR-EP

Richard Opper, Director
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Ref: EPA Guidance on Variances

Dear Mr. Opper:

Thank you for the opportunity to clarify the Environmental Protection Agency (EPA)'s guidance on variances to water quality standards (WQS). As background, EPA's long-standing guidance has been that variances may be granted in situations where removal of the designated use or adoption of a designated use sub-category is authorized pursuant to 40 CFR Section 131.10(g). For example, State/Tribal discretion to adopt a WQS variance was discussed in a 1998 Advance Notice of Proposed Rulemaking:

> "EPA has approved State and Tribal use of variances when the individual variance is included in State or Tribal water quality standards, each variance is subject to the same public review as other changes in water quality standards, the State or Tribe demonstrates that meeting the standard is unattainable based on one or more of the grounds listed in 40 CFR 131.10(g) for removing a designated use, existing uses are protected, the variance secures the highest level of water quality attainable short of achieving the standard and the State or Tribe demonstrates that advanced treatment and alternative effluent control strategies have been considered…"
> 63 Fed. Reg. 36742 (July 7, 1998)

Our understanding is that Montana Department of Environmental Quality (MDEQ) is interested in authorizing adoption of variances where attaining a designated use (that is not an existing use) is not feasible because "controls more stringent than those required by Sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impacts" (40 CFR Section 131.10(g)(6)). Detailed EPA guidance on how to determine substantial and widespread economic and social impacts is provided in the *Interim Economic Guidance for Water Quality Standards* (1995). Our understanding is that MDEQ has relied on this EPA guidance document as a basis for developing a Montana approach.

In a letter transmitted to EPA Headquarters on February 16th, 2010, MDEQ raised some questions about variances. In particular, the letter poses questions that relate to determination of the "remedy." Our understanding is that the term "remedy" in this context means the *feasible* alternative (or combination of alternatives) that achieves the highest degree of protection for the designated use (i.e., the controls or actions that are to be required under the variance).

The purpose of this letter is to respond to MDEQ's questions, clarify EPA's position on methods for determining the remedy pursuant to Section 131.10(g)(6), and describe one acceptable option for municipal discharges. The option described below was developed by EPA Headquarters after discussions with MDEQ and Region 8.

Our understanding is that MDEQ plans to adopt variance procedures into their state rules based on a modified version of the procedures described in EPA's *1995 Interim Economic Guidance for Water Quality Standards*. In its February 16 letter, MDEQ specifically requested EPA feedback on: (1) establishing an upper limit on the costs for WQS-based controls that must be paid by a community (i.e., a cost cap), and (2) using the same upper cost cap on a statewide basis for all communities. MDEQ further proposed setting the cost cap in Montana at 1% of median household income (MHI). This cost cap represents the total amount a community would be expected to pay to achieve WQS-based controls (i.e., not counting costs to achieve technology-based controls). The costs that are affordable under a WQS variance would be the incremental difference between the cost cap and the existing costs already born by the community to comply with WQS-based controls.

We recognize that MDEQ thinks a statewide cap will increase the likelihood of success since the public may better understand it and MDEQ views it as the most straight-forward approach. However, this type of approach is inconsistent with the principles articulated in EPA's economic guidance and does not acknowledge that communities vary substantially in their ability to pay for pollution controls. Generally, EPA considers costs that are 2% of MHI or greater as a high burden on the community and 1-2% as an intermediate burden. Most importantly, EPA's guidance states that "in all cases, the determination of economic and social impacts must be made on a case-by-case basis."

A case-by-case determination of the remedy would require communities to evaluate a range of alternatives and associated costs. The community would identify its preferred solution to the State and EPA for review. We recognize that a cost cap would be useful for identifying alternatives that are affordable and help to identify the remedy on a case-by-case basis. However, it is not appropriate to use the same cost cap for all communities on a statewide basis; instead, the cost cap should consider both the median household income and other socio-economic factors. It is not our position that EPA would never accept a cap of 1% MHI for a specific variance; rather, we would take into account the MHI, along with other economic indicators, in determining an appropriate cost cap.

We encourage MDEQ to consider incorporating the framework described below into the State's variance process. This framework would provide a case-by-case approach to identifying the cost cap based on MHI and other economic indicators. The framework would help communities and design engineers to anticipate pollution control costs early in the process. This approach could assist communities as they evaluate alternatives and consider what remedy is appropriate and feasible (i.e., in situations where granting a variance would be consistent with 40 CFR Section 131.10(g)).

The proposed framework offers a mechanism for systematically evaluating the community's Municipal Preliminary Score (MPS) in combination with the Secondary Score (SS) that reflects socio-economic factors. MDEQ's process for calculating the secondary score is based on a suite of socio-economic indicators which include: bond rating, overall net debt as a percent of the full market value of taxable property, unemployment rate, median household income, property tax revenues, and property collection rate. This modified list of indicators was reviewed and supported by Region 8 and EPA Headquarters. The MPS is the total annual incremental costs as a percent of median household income. The SS is the average of a set of scores of 1, 2, or 3 (weak, mid-range, strong) applied to the socio-economic indicators. Under the proposed framework, the SS is used to determine the cost cap, as a percentage of MHI. The framework would be applied as follows:

To determine whether impacts are substantial, EPA's 1995 guidance offers the following table:

Table 1. Table from EPA's 1995 Guidance

Secondary Score	Municipal Preliminary Screener		
	< 1%	>1% and <2%	>2%
>2.5	Not Substantial	Not Substantial	?
>1.5 and < 2.5	Not Substantial	?	Substantial
<1.5	?	Substantial	Substantial

A graphical depiction of this information (Figure 1) is presented below.

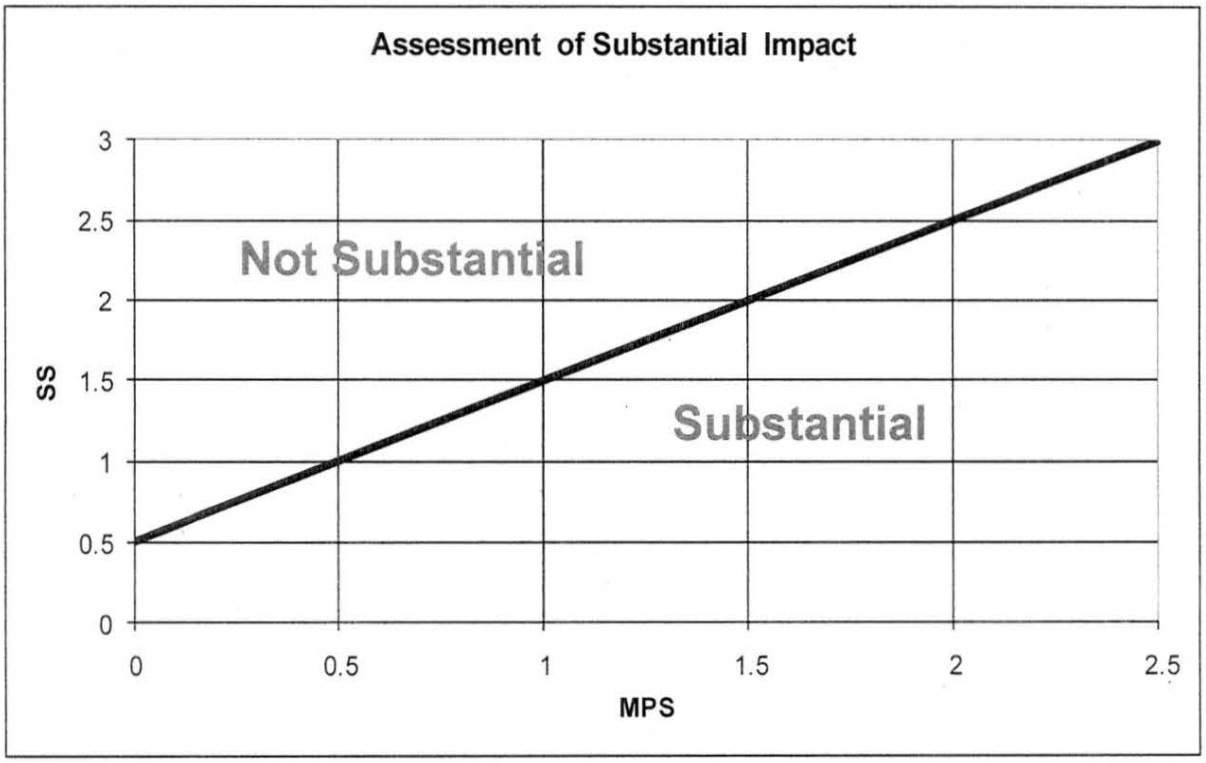

Figure 1. Assessment of Substantial Impact

To put this boundary into an equation, it would simply be SS = MPS + 0.5, and impacts are substantial when SS < MPS + 0.5. In words, one could say: "The impacts are considered substantial when the secondary score of community health is less than the municipal preliminary screener value plus half a percentage point." The (x, y) anchor points for the line are [MPS = 1%, SS = 1.5] and [MPS =2%, SS = 2.5].

- For the (x, y) point (1%, 1.5), the proposed approach interprets the 1995 guidance as taking the position that when SS is less than 1.5, the costs impacts are substantial if the MPS is greater than 1% of MHI.

- For the (x, y) point (2%, 2.5), the proposed approach interprets the 1995 guidance as taking the position that when SS is less than 2.5, the cost impacts are substantial if the MPS is greater than 2% of MHI.

Figure 2 provides a modified graphical interpretation of the 1995 guidance using the secondary score as a sliding scale to determine the cost cap for the remedy (as a % of MHI). The cost cap figure represents the total (not incremental) costs that a community would pay for WQS-based controls.

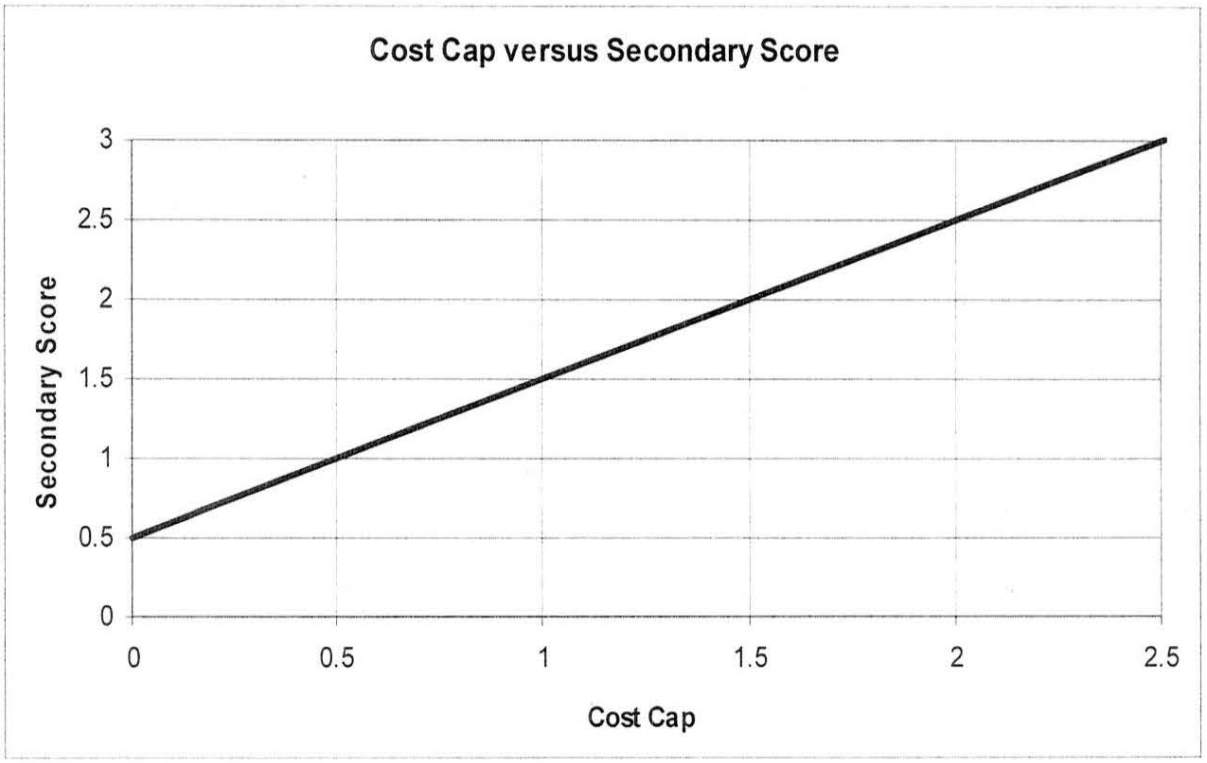

Figure 1. Graph for Deriving a Site-Specific Cost-Cap

Applying this framework would result in various case-by-case remedy cost caps (depending on the secondary score). Table 2 presents a summary of cost caps associated with several secondary score values.

Table 2. Cost Cap based on Secondary Score

Secondary Score	Cost Cap (% of MHI)
1.0	0.5
1.5	1.0
2.0	1.5
2.5	2.0
3	2.5

It is important to understand that prior to using Figure 1 to determine the cost cap, the community must first demonstrate that meeting Water Quality Based Effluent Limitations associated with the State's numeric nutrient criteria would result in substantial and widespread economic impacts. The following scenarios outline the application of the framework to identify the cost cap. In all of the scenarios presented below, the underlying presumption is that the communities have demonstrated that meeting numeric nutrient criteria will result in substantial and widespread economic impacts.

- **Scenario A**: Community A's secondary score is 2.5 and has demonstrated that meeting numeric nutrient criteria would cause substantial and widespread

impacts. Following EPA's proposed framework, the community would be expected to apply a cost cap of 2% of MHI towards the remedy. Outcome: If current treatment costs for WQS-based controls as a percentage of MHI is 1%, the community would be expected to pay an additional 1.0% of MHI towards the remedy.

- **Scenario B**: Community B has a secondary score of 2.0 and has demonstrated that meeting numeric nutrient criteria would cause substantial and widespread impacts. Following the framework, the community would be expected to apply a cost cap of 1.5% of MHI towards the remedy. Outcome: If current treatment costs for WQS-based controls, as a percentage of MHI, are 1.0%, the community would be expected to pay an additional 0.5% of MHI towards the remedy.
- **Scenario C:** Community C has a secondary score of 1.0 and has demonstrated that meeting numeric nutrient criteria would cause substantial and widespread impacts. Following the framework, the community would be expected to apply a cost cap of 0.5% of MHI towards the remedy. Outcome: If current treatment costs for WQS-based controls, as a percentage of MHI, are 1.0%, the community would not be expected to upgrade its wastewater treatment.

This framework offers a case-by-case analysis consistent with EPA guidance and would facilitate the process of determining the amount a community would pay towards pollution control costs.

In closing, we would like to commend MDEQ for all of the hard work and commitment to adopting numeric nutrient criteria. EPA will continue to support MDEQ's efforts to adopt numeric nutrient criteria and EPA expects that it would approve this framework as part of a rulemaking package.

We look forward to working with you and your staff in your continued progress towards adopting numeric nutrient criteria and associated implementation procedures. If you have any questions or need additional clarification, please contact Tina Laidlaw (406-457-5016) or Dave Moon (303-312-6833).

Sincerely,

for

Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

cc: Jim Keating, Office of Science and Technology, EPA Headquarters
Mike Suplee, Water Quality Planning Bureau, MDEQ